

SEQUENCE LISTING

<110> CHEN, Hong

<120> HUMAN GLUCOSE-6-PHOSPHATASE MOLECULES AND USES THEREOF

<130> 10147-33U1

<140> Not Yet Assigned

<141> 2001-06-01

<150> US 09/586,511

<151> 2000-06-02

<160> 27

<170> PatentIn Ver. 2.1

<210> 1

<211> 1138

<212> DNA

<213> Homo sapiens

<400> 1

```

aattcgccct tcagctccaa ttgctctatg tttagaattg cctctttttc aagatggatt 60
tccttcacag gaatggagtg ctcataattc agcatttgca gaaggactac cgagcttact 120
acacttttct aaatttttatg tccaatgttg gagaccccag gaatatcttt ttcattttatt 180
ttccaacttg ttttcaattt aatcagacag ttggaaccaa gatgatatgg gtagcagtca 240
ttgggggattg gttaaattctt atattttaa atggtcattt tgggtcattc ctttactggg 300
gggtccaaga aactcagatt taccctaaatc actcaagtcc atgccttgaa cagttcccta 360
ctacatgtga aacagggtcca ggaagtccat ctggccatgc aatgggcgca tctgtgtct 420
gggtatgtcat ggtaaccgct gccctgagcc aactgtctg tgggatggat aagttctcta 480
tcactctgca cagactgacc tgggtcattt tttggagtgt tttttggttg attcaaata 540
gtgtctgcat ctccagagta ttcataagca cacattttcc tcatcaagtt attcttggag 600
taattggtgg catgctggtg gcagaggcct ttgaacacac tccaggcatc caaacggcca 660
gtctgggcac atacctgaag accaacctct ttctcttctt gtttgcagtt ggcttttacc 720
tgcttcttag ggtgctcaac attgacctgc tgtggtccgt gcccatagcc aaaaagtgg 780
gtgctaacc cgaactggatc cacattgaca ccacgcctt tgcaggactc gtgagaaacc 840
ttgggggtcct ctttggcttg ggctttgcaa tcaactcaga gatgttctc ctgagctgcc 900
gagggggaaa taactacaca ctgagcttcc ggttgctctg tgccttgacc tcattgacaa 960
tactgcagct ctaccatttc ctccagatcc cgaactcaga agagcattta ttttatgtgc 1020
tgtctttttg taaaagtgc tccattcccc taactgtggg tgctttcatt cctactctg 1080
ttcatatgtt aatgaaacaa agcggaaaga agagtcagta gaaaaaaaaa aaaaaaaa 1138

```

<210> 2

<211> 1065

<212> DNA

<213> Homo sapiens

<400> 2

```
atggatttcc ttcacaggaa tggagtgtc ataattcagc atttgcagaa ggactaccga 60
gcttactaca cttttctaaa ttttatgtcc aatgttggag accccaggaa tatctttttc 120
atctattttc cactttgttt tcaatttaat cagacagttg gaaccaagat gatatgggta 180
gcagtcattg gggattgggt aaatcttata tttaaatgga tattatttgg tcatcgacct 240
tactggtggg tccaagaaac tcagatttac ccaaactact caagtccatg ccttgaacag 300
ttccctacta catgtgaaac aggtccagga agtccatctg gccatgcaat gggcgcatcc 360
tgtgtctggg atgtcatggg aaccgctgcc ctgagccaca ctgtctgtgg gatggataag 420
ttctctatca ctctgcacag actgacctgg tcatttcttt ggagtgtttt ttggttgatt 480
caaatcagtg tctgcatctc cagagtattc atagcaacac attttcctca tcaagttatt 540
cttgagagta ttggtggcat gctggtggca gaggcctttg aacacactcc aggcattcaa 600
acggccagtc tgggcacata cctgaagacc aacctctttc tcttcctgtt tgcagttggc 660
ttttacctgc ttcttagggg gctcaacatt gacctgctgt ggtccgtgcc catagccaaa 720
aagtgggtgt ctaaccccca ctggatccac attgacacca cgccttttgc tggactcgtg 780
agaaaccttg gggctctctt tggtctgggc ttgcaatca actcagagat gttcctcctg 840
agctgccgag ggggaaataa ctacacactg agcttcgggt tgctctgtgc cttgacctca 900
ttgacaatac tgcagctcta ccatttcctc cagatcccga ctacgaaga gcattttatt 960
tatgtgctgt ctttttgtaa aagtgcattc attcccctaa ctgtggttgc tttcattccc 1020
tactctgttc atatgttaat gaaacaaagc ggaaagaaga gtcag 1065
```

<210> 3

<211> 355

<212> PRT

<213> Homo sapiens

<400> 3

```
Met Asp Phe Leu His Arg Asn Gly Val Leu Ile Ile Gln His Leu Gln
  1              5              10              15

Lys Asp Tyr Arg Ala Tyr Tyr Thr Phe Leu Asn Phe Met Ser Asn Val
      20              25              30

Gly Asp Pro Arg Asn Ile Phe Phe Ile Tyr Phe Pro Leu Cys Phe Gln
      35              40              45

Phe Asn Gln Thr Val Gly Thr Lys Met Ile Trp Val Ala Val Ile Gly
      50              55              60

Asp Trp Leu Asn Leu Ile Phe Lys Trp Ile Leu Phe Gly His Arg Pro
      65              70              75              80

Tyr Trp Trp Val Gln Glu Thr Gln Ile Tyr Pro Asn His Ser Ser Pro
      85              90              95

Cys Leu Glu Gln Phe Pro Thr Thr Cys Glu Thr Gly Pro Gly Ser Pro
```

100	105	110
Ser Gly His Ala Met Gly Ala	Ser Cys Val Trp Tyr Val Met Val Thr	
115	120	125
Ala Ala Leu Ser His Thr Val Cys Gly Met Asp Lys Phe Ser Ile Thr		
130	135	140
Leu His Arg Leu Thr Trp Ser Phe Leu Trp Ser Val Phe Trp Leu Ile		
145	150	155 160
Gln Ile Ser Val Cys Ile Ser Arg Val Phe Ile Ala Thr His Phe Pro		
165	170	175
His Gln Val Ile Leu Gly Val Ile Gly Gly Met Leu Val Ala Glu Ala		
180	185	190
Phe Glu His Thr Pro Gly Ile Gln Thr Ala Ser Leu Gly Thr Tyr Leu		
195	200	205
Lys Thr Asn Leu Phe Leu Phe Leu Phe Ala Val Gly Phe Tyr Leu Leu		
210	215	220
Leu Arg Val Leu Asn Ile Asp Leu Leu Trp Ser Val Pro Ile Ala Lys		
225	230	235 240
Lys Trp Cys Ala Asn Pro Asp Trp Ile His Ile Asp Thr Thr Pro Phe		
245	250	255
Ala Gly Leu Val Arg Asn Leu Gly Val Leu Phe Gly Leu Gly Phe Ala		
260	265	270
Ile Asn Ser Glu Met Phe Leu Leu Ser Cys Arg Gly Gly Asn Asn Tyr		
275	280	285
Thr Leu Ser Phe Arg Leu Leu Cys Ala Leu Thr Ser Leu Thr Ile Leu		
290	295	300
Gln Leu Tyr His Phe Leu Gln Ile Pro Thr His Glu Glu His Leu Phe		
305	310	315 320
Tyr Val Leu Ser Phe Cys Lys Ser Ala Ser Ile Pro Leu Thr Val Val		
325	330	335
Ala Phe Ile Pro Tyr Ser Val His Met Leu Met Lys Gln Ser Gly Lys		
340	345	350
Lys Ser Gln		

355

<210> 4

<211> 355

<212> PRT

<213> Mus musculus

<400> 4

Met Asp Phe Leu His Arg Ser Gly Val Leu Ile Ile His His Leu Gln
1 5 10 15

Glu Asp Tyr Arg Thr Tyr Tyr Gly Phe Leu Asn Phe Met Ser Asn Val
20 25 30

Gly Asp Pro Arg Asn Ile Phe Ser Ile Tyr Phe Pro Leu Trp Phe Gln
35 40 45

Leu Asn Gln Asn Val Gly Thr Lys Met Ile Trp Val Ala Val Ile Gly
50 55 60

Asp Trp Phe Asn Leu Ile Phe Lys Trp Ile Leu Phe Gly His Arg Pro
65 70 75 80

Tyr Trp Trp Ile Gln Glu Thr Glu Ile Tyr Pro Asn His Ser Ser Pro
85 90 95

Cys Leu Glu Gln Phe Pro Thr Thr Cys Glu Thr Gly Pro Gly Ser Pro
100 105 110

Ser Gly His Ala Met Gly Ser Ser Cys Val Trp Tyr Val Met Val Thr
115 120 125

Ala Ala Leu Ser Tyr Thr Ile Ser Arg Met Glu Glu Ser Ser Val Thr
130 135 140

Leu His Arg Leu Thr Trp Ser Phe Leu Trp Ser Val Phe Trp Leu Ile
145 150 155 160

Gln Ile Ser Val Cys Ile Ser Arg Val Phe Ile Ala Thr His Phe Pro
165 170 175

His Gln Val Ile Leu Gly Val Ile Gly Gly Met Leu Val Ala Glu Ala
180 185 190

Phe Glu His Thr Pro Gly Val His Met Ala Ser Leu Ser Val Tyr Leu
195 200 205

Lys Thr Asn Val Phe Leu Phe Leu Phe Ala Leu Gly Phe Tyr Leu Leu
 210 215 220
 Leu Arg Leu Phe Gly Ile Asp Leu Leu Trp Ser Val Pro Ile Ala Lys
 225 230 235 240
 Lys Trp Cys Ala Asn Pro Asp Trp Ile His Ile Asp Ser Thr Pro Phe
 245 250 255
 Ala Gly Leu Val Arg Asn Leu Gly Val Leu Phe Gly Leu Gly Phe Ala
 260 265 270
 Ile Asn Ser Glu Met Phe Leu Arg Ser Cys Gln Gly Glu Asn Gly Thr
 275 280 285
 Lys Pro Ser Phe Arg Leu Leu Cys Ala Leu Thr Ser Leu Thr Thr Met
 290 295 300
 Gln Leu Tyr Arg Phe Ile Lys Ile Pro Thr His Ala Glu Pro Leu Phe
 305 310 315 320
 Tyr Leu Leu Ser Phe Cys Lys Ser Ala Ser Ile Pro Leu Met Val Val
 325 330 335
 Ala Leu Ile Pro Tyr Cys Val His Met Leu Met Arg Pro Gly Asp Lys
 340 345 350
 Lys Thr Lys
 355

<210> 5
 <400> 5
 000

<210> 6
 <400> 6
 000

<210> 7
 <400> 7
 000

<210> 8
 <400> 8

000

<210> 9

<400> 9

000

<210> 10

<400> 10

000

<210> 11

<400> 11

000

<210> 12

<400> 12

000

<210> 13

<400> 13

000

<210> 14

<400> 14

000

<210> 15

<400> 15

000

<210> 16

<400> 16

000

<210> 17

<400> 17

000

<210> 18
<400> 18
000

<210> 19
<400> 19
000

<210> 20
<400> 20
000

<210> 21
<400> 21
000

<210> 22
<211> 1901
<212> DNA
<213> Mus musculus

<400> 22
tagagacagt gggacacagg gccctgcagt tccacctgct tcatgcttag acctgcatca 60
agatggattt ccttcatagg agtggagtgc ttattattca tcatctgcag gaggactacc 120
ggacttacta tggttttcta aattttatgt ccaatgttgg agacccccga aatatctttt 180
ctattttactt cccacttttg tttcagttga atcagaatgt tggaaaccaag atgatctggg 240
tagcggtcac aggggactgg ttcaatctca tatttaaagt gatattgttt ggccatcgtc 300
cttactggtg gatacaagaa actgagattt atccaaatca ttcaagccca tgtcttgagc 360
agtttcctac tacgtgtgaa acaggcccag gaagtccatc tggccacgca atgggctcat 420
cgtgcgtctg gtatgtcatg gtaacagctg ccctaagcta caccatcagc cggatggagg 480
agtcctctgt cactctgcac agactgacct ggtcctttct gtggagtgtt ttctggttga 540
ttcaaatcag cgtctgcac tcaagagtat tcatagccac acatttcccc catcagggtca 600
ttcttggagt gattggtggg atgctagtag ccgaggcctt tgaacacact ccaggagtcc 660
acatggccag cttgagtgtg tacctgaaga ccaacgtctt cctcttcttg tttgccctcg 720
gcttttacct gcttctccga ctgttcggta ttgacctgct gtggtcctg cccatcgcca 780
aaaagtgggt tgccaacca gactggatcc acattgacag cagcctttt gctggactcg 840
tgagaaacct cggggtcctc tttggcttgg gtttcgccat caactcagaa atgttccttc 900
ggagctgccca gggagaaaat ggcaccaagc cgagcttccg cttgctctgt gctctgacct 960
cactgaccac aatgcaactt tatcgcttca tcaagatccc gactcacgcg gaacctttat 1020
tttacctgtt gtctttctgt aaaagtgcgt ccattccccct gatggtgggtg gctctaattc 1080
cctactgtgt acatatgtta atgagaccgg gtgacaagaa gactaaatag agctgcagtg 1140
ccctgtgggtc tgaggatcac ctactttctg ttttcctcaa tagagccaca gcacagagac 1200
tgggagcgtc tctacagagg tcacaccatg atgaccaaag gtcctgctcc acccacagac 1260
atgttttagtc tgctttccaa gtggcattta aaaaataaca gtatttaacc agaaagtcca 1320

tat t t t t c t t g a c a a a a c t g a c a a t a c g g t a a c a t a t g a g a g a t g g t a t a a c c c a t g t a a a 1380
g a c a g t t g a c a g g g g c t g g a t g c t t a c a t t c c a g t t a g c a g a a g a c t c c t t c t a a t c a t 1440
a g t a t t t a g c a g t c a a c a a a a c c c c c a g g a g c t g a t g t t t c t a t c a t c t t a a g t c t g g c 1500
t a c t t c a g g c t c c t g t g g a c c a c t t a g a a g t g a c c a g g t c t a c t t t t a c t t t a g g a g t 1560
c a a t t c t t t c a a a a t t c t c a t g t a t c a g a t a a g g a a a t a g a g g t t t g t t c a g a t c a a g t a 1620
a c t t g a c t g t a a t a g t g c a g g g t t g a a a c c a g a g t t g g a c a c a a g g c t t c t g a t a c a t a 1680
t a t c t c t a t a a g a a t g c t t t c t t t c t t t c t t t t a g g g a g t t a a a a a a a a a g a g c a a a t g 1740
c a t g t a t t t a a a a t c t a t g t t t g c c a t c t a a a c a c c c a t c t t t t c a g a a a t g g c a t t g g 1800
a a t g c t a c a t t c t g c t t g a c t t a t g c t c a g a g t a c a g t g t c t t t t c c a g g c t a g c a a t g g 1860
c t g t a t a t a t t t c a a t a a a c g c t g c t g a a a a c a a c c c a c t g 1901

<210> 23

<211> 355

<212> PRT

<213> Mus musculus

<400> 23

Met	Asp	Phe	Leu	His	Arg	Ser	Gly	Val	Leu	Ile	Ile	His	His	Leu	Gln
1				5					10					15	
Glu	Asp	Tyr	Arg	Thr	Tyr	Tyr	Gly	Phe	Leu	Asn	Phe	Met	Ser	Asn	Val
			20					25					30		
Gly	Asp	Pro	Arg	Asn	Ile	Phe	Ser	Ile	Tyr	Phe	Pro	Leu	Trp	Phe	Gln
		35				40						45			
Leu	Asn	Gln	Asn	Val	Gly	Thr	Lys	Met	Ile	Trp	Val	Ala	Val	Ile	Gly
	50				55					60					
Asp	Trp	Phe	Asn	Leu	Ile	Phe	Lys	Trp	Ile	Leu	Phe	Gly	His	Arg	Pro
65				70					75					80	
Tyr	Trp	Trp	Ile	Gln	Glu	Thr	Glu	Ile	Tyr	Pro	Asn	His	Ser	Ser	Pro
			85					90					95		
Cys	Leu	Glu	Gln	Phe	Pro	Thr	Thr	Cys	Glu	Thr	Gly	Pro	Gly	Ser	Pro
		100						105				110			
Ser	Gly	His	Ala	Met	Gly	Ser	Ser	Cys	Val	Trp	Tyr	Val	Met	Val	Thr
	115						120					125			
Ala	Ala	Leu	Ser	Tyr	Thr	Ile	Ser	Arg	Met	Glu	Glu	Ser	Ser	Val	Thr
	130					135				140					
Leu	His	Arg	Leu	Thr	Trp	Ser	Phe	Leu	Trp	Ser	Val	Phe	Trp	Leu	Ile
145				150				155						160	

Gln Ile Ser Val Cys Ile Ser Arg Val Phe Ile Ala Thr His Phe Pro
165 170 175

His Gln Val Ile Leu Gly Val Ile Gly Gly Met Leu Val Ala Glu Ala
180 185 190

Phe Glu His Thr Pro Gly Val His Met Ala Ser Leu Ser Val Tyr Leu
195 200 205

Lys Thr Asn Val Phe Leu Phe Leu Phe Ala Leu Gly Phe Tyr Leu Leu
210 215 220

Leu Arg Leu Phe Gly Ile Asp Leu Leu Trp Ser Val Pro Ile Ala Lys
225 230 235 240

Lys Trp Cys Ala Asn Pro Asp Trp Ile His Ile Asp Ser Thr Pro Phe
245 250 255

Ala Gly Leu Val Arg Asn Leu Gly Val Leu Phe Gly Leu Gly Phe Ala
260 265 270

Ile Asn Ser Glu Met Phe Leu Arg Ser Cys Gln Gly Glu Asn Gly Thr
275 280 285

Lys Pro Ser Phe Arg Leu Leu Cys Ala Leu Thr Ser Leu Thr Thr Met
290 295 300

Gln Leu Tyr Arg Phe Ile Lys Ile Pro Thr His Ala Glu Pro Leu Phe
305 310 315 320

Tyr Leu Leu Ser Phe Cys Lys Ser Ala Ser Ile Pro Leu Met Val Val
325 330 335

Ala Leu Ile Pro Tyr Cys Val His Met Leu Met Arg Pro Gly Asp Lys
340 345 350

Lys Thr Lys
355

<210> 24

<211> 352

<212> PRT

<213> Haplochromis nubilis

<400> 24

Met Asp Leu Leu His Ser Trp Gly Val Glu Leu Ala Val Tyr Leu Gln
1 5 10 15

Thr Arg Tyr Gly Lys Tyr Glu Gly Leu Phe Asp Leu Ala Ser Thr Val
 20 25 30

Ala Asp Leu His Thr Thr Phe Phe Trp Leu Phe Pro Ile Trp Phe His
 35 40 45

Leu Arg Arg Asp Thr Ala Leu Arg Leu Ile Trp Val Ala Val Ile Gly
 50 55 60

Asp Trp Leu Asn Leu Val Leu Lys Trp Val Leu Phe Gly Glu Arg Pro
 65 70 75 80

Tyr Trp Trp Val His Glu Thr Lys Phe Tyr Gly Ala Gly Pro Ala Pro
 85 90 95

Ser Leu Gln Gln Phe Pro Ile Thr Cys Glu Thr Gly Pro Gly Ser Pro
 100 105 110

Ser Gly His Ala Met Gly Ala Ala Gly Val Trp Tyr Val Met Val Thr
 115 120 125

Ala Leu Leu Ser Ile Ala Arg Glu Lys Gln Cys Pro Pro Leu Leu Tyr
 130 135 140

Arg Phe Leu Tyr Ile Gly Leu Trp Met Leu Met Gly Leu Val Glu Leu
 145 150 155 160

Val Val Cys Ile Ser Arg Val Tyr Met Ala Ala His Phe Pro His Gln
 165 170 175

Val Ile Ala Gly Ile Ile Thr Gly Thr Leu Val Ala Glu Val Val Ser
 180 185 190

Lys Glu Lys Trp Ile Tyr Ser Ala Ser Leu Lys Lys Tyr Phe Leu Ile
 195 200 205

Thr Leu Phe Leu Thr Ser Phe Ala Val Gly Phe Tyr Val Leu Leu Lys
 210 215 220

Ala Leu Asp Val Asp Leu Leu Trp Thr Met Glu Lys Ala Gln Lys Trp
 225 230 235 240

Cys Ile Arg Pro Glu Trp Val His Leu Asp Ser Ala Pro Phe Ala Ser
 245 250 255

Leu Leu Arg Asn Met Gly Ser Leu Phe Gly Leu Gly Leu Gly Leu His
 260 265 270

Ser Pro Phe Tyr Lys Thr Thr Lys Met Arg Ile Met Ser Ala Pro Leu
275 280 285

Arg Ile Gly Cys Ile Val Ile Ser Val Ser Leu Leu His Leu Leu Asp
290 295 300

Gly Trp Thr Phe Ser Pro Glu Asn His Met Thr Phe Tyr Ala Leu Ser
305 310 315 320

Phe Gly Lys Ser Ala Val Ala Leu Leu Ile Pro Thr Thr Leu Val Pro
325 330 335

Trp Ala Leu Ser Lys Ile Tyr Pro Val Lys Thr Glu Gly Lys Asn Leu
340 345 350

<210> 25

<211> 357

<212> PRT

<213> Mus sp.

<400> 25

Met Glu Glu Gly Met Asn Ile Leu His Asp Phe Gly Ile Gln Ser Thr
1 5 10 15

Arg Tyr Leu Gln Val Asn Tyr Gln Asp Ser Gln Asp Trp Phe Ile Leu
20 25 30

Val Ser Val Ile Ala Asp Leu Arg Asn Ala Phe Tyr Val Leu Phe Pro
35 40 45

Ile Trp Phe His Leu Lys Glu Thr Val Gly Ile Asn Leu Leu Trp Val
50 55 60

Ala Val Val Gly Asp Trp Phe Asn Leu Val Phe Lys Trp Ile Leu Phe
65 70 75 80

Gly Gln Arg Pro Tyr Trp Trp Val Leu Asp Thr Asp Tyr Tyr Ser Asn
85 90 95

Ser Ser Val Pro Ile Ile Lys Gln Phe Pro Val Thr Cys Glu Thr Gly
100 105 110

Pro Gly Ser Pro Ser Gly His Ala Met Gly Ala Ala Gly Val Tyr Tyr

115		120		125	
Val Met Val Thr Ser Thr Leu Ala Ile Phe Arg Gly Lys Lys Lys Pro					
130		135		140	
Thr Tyr Gly Phe Arg Cys Leu Asn Val Ile Leu Trp Leu Gly Phe Trp					
145		150		155	160
Ala Val Gln Leu Asn Val Cys Leu Ser Arg Ile Tyr Leu Ala Ala His					
	165		170		175
Phe Pro His Gln Val Val Ala Gly Val Leu Ser Gly Ile Ala Val Ala					
	180		185		190
Glu Thr Phe Ser His Ile Arg Gly Ile Tyr Asn Ala Ser Leu Arg Lys					
195		200		205	
Tyr Cys Leu Ile Thr Ile Phe Leu Phe Gly Phe Ala Leu Gly Phe Tyr					
210		215		220	
Leu Leu Leu Lys Gly Leu Gly Val Asp Leu Leu Trp Thr Leu Glu Lys					
225		230		235	240
Ala Lys Arg Trp Cys Glu Arg Pro Glu Trp Val His Leu Asp Thr Thr					
	245		250		255
Pro Phe Ala Ser Leu Phe Lys Asn Leu Gly Thr Leu Leu Gly Leu Gly					
	260		265		270
Leu Ala Leu Asn Ser Ser Met Tyr Arg Lys Ser Cys Lys Gly Glu Leu					
275		280		285	
Ser Lys Ser Phe Pro Phe Arg Phe Ala Cys Ile Val Ala Ser Leu Val					
290		295		300	
Leu Leu His Leu Phe Asp Ser Leu Lys Pro Pro Ser Gln Val Glu Leu					
305		310		315	320
Ile Phe Tyr Ile Leu Ser Phe Cys Lys Ser Ala Thr Val Pro Phe Ala					
	325		330		335
Ser Val Ser Leu Ile Pro Tyr Cys Leu Ala Arg Ile Leu Gly Gln Thr					
	340		345		350
His Lys Lys Ser Leu					
355					

<210> 26

<211> 357

<212> PRT

<213> Canis familiaris

<400> 26

Met Glu Lys Gly Met Asp Val Leu His Asp Phe Gly Ile Gln Ser Thr
1 5 10 15

His Tyr Leu Gln Val Asn Tyr Gln Asp Ser Gln Asp Trp Phe Ile Leu
20 25 30

Val Ser Val Ile Ala Asp Leu Arg Asn Ala Phe Tyr Val Leu Phe Pro
35 40 45

Ile Trp Phe His Leu Arg Glu Ala Val Gly Ile Lys Leu Leu Trp Val
50 55 60

Ala Val Ile Gly Asp Trp Leu Asn Leu Val Phe Lys Trp Ile Leu Phe
65 70 75 80

Gly Gln Arg Pro Tyr Trp Trp Val Met Asp Thr Asp Tyr Tyr Ser Asn
85 90 95

Thr Ser Val Pro Leu Ile Lys Gln Phe Pro Val Thr Cys Glu Thr Gly
100 105 110

Pro Gly Ser Pro Ser Gly His Ala Met Gly Thr Ala Gly Val Tyr Tyr
115 120 125

Val Met Val Thr Ser Thr Leu Ser Ile Phe Arg Gly Arg Lys Arg Pro
130 135 140

Thr Tyr Arg Phe Arg Cys Leu Asn Ile Leu Leu Trp Leu Gly Phe Trp
145 150 155 160

Ala Val Gln Leu Asn Val Cys Leu Ser Arg Ile Tyr Leu Ala Ala His
165 170 175

Phe Pro His Gln Val Val Ala Gly Val Leu Ser Gly Ile Ala Val Ala
180 185 190

Glu Thr Phe Arg His Ile Gln Ser Ile Tyr Asn Ala Ser Leu Lys Lys
195 200 205

Tyr Phe Leu Ile Thr Phe Phe Leu Phe Ser Phe Ala Ile Gly Phe Tyr
210 215 220

Leu Leu Leu Lys Gly Leu Gly Val Asp Leu Leu Trp Thr Leu Glu Lys
 225 230 235 240
 Ala Arg Arg Trp Cys Glu Arg Pro Glu Trp Val His Ile Asp Thr Thr
 245 250 255
 Pro Phe Ala Ser Leu Leu Lys Asn Val Gly Thr Leu Phe Gly Leu Gly
 260 265 270
 Val Thr Leu Asn Ser Ser Met Tyr Arg Glu Ser Cys Lys Gly Lys Leu
 275 280 285
 Ser Lys Trp Phe Pro Phe Arg Leu Ser Cys Ile Val Val Ser Leu Ile
 290 295 300
 Leu Leu His Leu Phe Asp Ser Leu Lys Pro Pro Ser Gln Thr Glu Leu
 305 310 315 320
 Ile Phe Tyr Thr Leu Ser Phe Cys Lys Ser Ala Ala Val Pro Leu Ala
 325 330 335
 Ser Val Ser Leu Ile Pro Tyr Cys Leu Ala Arg Val Phe Asp Gln Pro
 340 345 350
 Asp Lys Lys Ser Leu
 355

<210> 27
 <211> 357
 <212> PRT
 <213> Homo sapiens

<400> 27
 Met Glu Glu Gly Met Asn Val Leu His Asp Phe Gly Ile Gln Ser Thr
 1 5 10 15
 His Tyr Leu Gln Val Asn Tyr Gln Asp Ser Gln Asp Trp Phe Ile Leu
 20 25 30
 Val Ser Val Ile Ala Asp Leu Arg Asn Ala Phe Tyr Val Leu Phe Pro
 35 40 45
 Ile Trp Phe His Leu Gln Glu Ala Val Gly Ile Lys Leu Leu Trp Val
 50 55 60
 Ala Val Ile Gly Asp Trp Leu Asn Leu Val Phe Lys Trp Ile Leu Phe
 65 70 75 80

Gly	Gln	Arg	Pro	Tyr	Trp	Trp	Val	Leu	Asp	Thr	Asp	Tyr	Tyr	Ser	Asn	
				85					90					95		
Thr	Ser	Val	Pro	Leu	Ile	Lys	Gln	Phe	Pro	Val	Thr	Cys	Glu	Thr	Gly	
			100					105					110			
Pro	Gly	Ser	Pro	Ser	Gly	His	Ala	Met	Gly	Thr	Ala	Gly	Val	Tyr	Tyr	
		115					120					125				
Val	Met	Val	Thr	Ser	Thr	Leu	Ser	Ile	Phe	Gln	Gly	Lys	Ile	Lys	Pro	
	130					135					140					
Thr	Tyr	Arg	Phe	Arg	Cys	Leu	Asn	Val	Ile	Leu	Trp	Leu	Gly	Phe	Trp	
145					150					155					160	
Ala	Val	Gln	Leu	Asn	Val	Cys	Leu	Ser	Arg	Ile	Tyr	Leu	Ala	Ala	His	
				165					170					175		
Phe	Pro	His	Gln	Val	Val	Ala	Gly	Val	Leu	Ser	Gly	Ile	Ala	Val	Thr	
			180					185					190			
Glu	Thr	Phe	Ser	His	Ile	His	Ser	Ile	Tyr	Asn	Ala	Ser	Leu	Lys	Lys	
		195					200					205				
Tyr	Phe	Leu	Ile	Thr	Phe	Phe	Leu	Phe	Ser	Phe	Ala	Ile	Gly	Phe	Tyr	
	210					215					220					
Leu	Leu	Leu	Lys	Gly	Leu	Gly	Val	Asp	Leu	Leu	Trp	Thr	Leu	Glu	Lys	
225					230					235					240	
Ala	Gln	Arg	Trp	Cys	Glu	Gln	Pro	Glu	Trp	Val	His	Ile	Asp	Thr	Thr	
				245					250					255		
Pro	Phe	Ala	Ser	Leu	Leu	Lys	Asn	Leu	Gly	Thr	Leu	Phe	Gly	Leu	Gly	
			260					265					270			
Leu	Ala	Leu	Asn	Ser	Ser	Met	Tyr	Arg	Glu	Ser	Cys	Lys	Gly	Lys	Leu	
		275					280					285				
Ser	Lys	Trp	Leu	Pro	Phe	Arg	Leu	Ser	Ser	Ile	Val	Ala	Ser	Leu	Val	
	290					295					300					
Leu	Leu	His	Val	Phe	Asp	Ser	Leu	Lys	Pro	Pro	Ser	Gln	Val	Glu	Leu	
305					310				315						320	
Val	Phe	Tyr	Val	Leu	Ser	Phe	Cys	Lys	Ser	Ala	Val	Val	Pro	Leu	Ala	
				325					330					335		

Ser Val Ser Val Ile Pro Tyr Cys Leu Ala Gln Val Leu Gly Gln Pro
340 345 350

His Lys Lys Ser Leu
355